AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the

application:

LISTING OF CLAIMS:

1. (currently amended): A method to perform central control of an in-line element ~~(Ei)~~

in a tree-like network by a line terminator ~~(LT)~~ included in said network together with a plurality

of network terminators ~~(NT1, NT2, ..., NTi, ..., NTn) of which at least one network terminator~~

~~is coupled via said in-line element (Ei) to said line terminator (LT) by dedicated a branch and a~~

~~common branch, respectively,~~ **characterized in that** said method comprising ~~includes the steps~~

~~of~~:

determining by said line terminator ~~(LT)~~ a first plurality of bits ~~(A)~~ according to an

identification of a selected element ~~(SEL-E)~~ and a second plurality of bits ~~(B)~~ according to an

identification of a locally predefined function ~~(SEL-F)~~, said selected element ~~(SEL-E)~~ being

selected out of a set of in-line elements comprising at least said in-line element ~~(Ei)~~ in order to

execute said locally predefined function ~~(SEL-F)~~; ~~and~~

including by said line terminator ~~(LT)~~ in a grant message ~~(G)~~ said first plurality of bits

~~(A)~~ and said second plurality of bits ~~(B)~~; and

forwarding said grant message ~~(G)~~ by said line terminator ~~(LT)~~ to said element ~~(Ei) in~~

~~order to thereby impose~~ forcing execution of said locally predefined function ~~(SEL-F)~~ according

to said second plurality of bits (B) upon said selected element (SEL-E) according to said first

plurality of bits (A),

wherein at least one network terminator of said plurality of network terminators is

coupled via said in-line element to said line terminator by a dedicated branch and a common

branch, respectively.

2. (currently amended): A The method to perform central control of an in-line element

(Ei) according to claim 1, characterized in that wherein said step of determining includes

comprises ing in said first plurality of bits (A) any one of a network terminator identifier and a

branch identifier, said network terminator identifier identifying one of said plurality of network

terminators and said branch identifier identifying at least part of said tree-like network.

3. (currently amended): A method to perform central control of an in-line element

according to claim 1, characterized in that said step of wherein said forwarding includes

comprises:

comprising encapsulating said grant message in a downstream signal (D(G)); and

downstream distributing said downstream signal (D(G)) to said plurality of network

terminators (NT1, NT2, ..., NTi, ..., NTn) by said line terminator (LT); and

capturing said grant message (G) out of said downstream signal (D(G)); and

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forwarding said <u>captured</u> grant message ~~(G)~~ to at least one element controller ~~(CTRL-E)~~

associated ~~to~~ <u>with</u> said element ~~(Ei) in order to thereby impose~~ <u>forcing</u> execution of said locally

predefined function ~~(SEL-F)~~ according to said second plurality of bits ~~(B)~~ upon said selected

element ~~(SEL-E)~~ according to said first plurality of bits ~~(A)~~. .

4. (currently amended): A line terminator ~~(LT)~~ to perform central control of a plurality

of in-line elements ~~(Ei)~~ in a tree-like network, ~~said tree-like network including a plurality of~~

~~network terminators (NT1, NT2, ..., NTi, ..., NTn) being coupled via said plurality of in-line~~

~~elements (Ei) to said line terminator (LT) by dedicated branches and a common branch,~~

~~respectively, **characterized in that**~~ said line terminator ~~(LT) includes~~ <u>comprises</u>:

determining means ~~(DET)~~ to determine a first plurality of bits ~~(A)~~ according to an

identification of a selected element ~~(SEL-E)~~ and a second plurality of bits ~~(B)~~ according to an

identification of a locally predefined function ~~(SEL-F)~~, said selected element ~~(SEL-E)~~ being

selected out of said plurality of in-line elements ~~(Ei) in order~~ to execute said locally predefined

function ~~(SEL-F)~~; ~~and~~

including means ~~(INCL)~~ coupled to said determining means ~~(DET)~~ to include said first

plurality of bits ~~(A)~~ and said second plurality of bits ~~(B)~~ in a grant message ~~(G)~~; and

forwarding means ~~(FORW)~~ coupled to said including means ~~(INCL)~~ to forward said

grant message ~~(G)~~ to said selected element ~~(Ei) in order to thereby impose~~ <u>forcing</u> execution of

said locally predefined function (SEL-F) according to said second plurality of bits (B) upon said

selected element (SEL-E) according to said first plurality of bits (A)$_{\lambda}$

wherein said tree-like network comprises a plurality of network terminators being

coupled via said plurality of in-line elements to said line terminator by dedicated branches and a

common branch, respectively.

5. (currently amended): The line terminator (LT) according to claim 4, characterized in

that wherein said forwarding means (FORW) includes encapsulating means (ENC) to

encapsulate said grant message (G) in a downstream signal (D(G)) and to distribute said

downstream signal (D(G)) to said plurality of network terminators (NT1, NT2, ..., NTi, ...,

NTn) in order to enable taking in of said grant message (G) out of said downstream signal

(D(G)).

6. (currently amended): An element controller (CTRL-E) associated to a selected

element (SEL-E) of a set of in-line elements (Ei) in a tree-like network, to impose force

execution of a locally predefined function upon said selected element (SEL-E) under the central

control of a line terminator (LT), said line terminator (LT) being coupled via said set of in-line

elements (Ei) comprising said selected element (SEL-E) to a plurality of network terminators

(NT1, NT2, ..., NTi, ..., NTn) by a common branch and dedicated branches, respectively,

~~characterized that said element controller (CTRL-E) is downstream coupled to said line~~

~~terminator (LT) and~~, said element controller comprises: ~~includes~~

recognizing means ~~(RECO)~~ being coupled to an input of said element controller

~~(CTRL-E)~~ to receive a grant message ~~(G)~~ transmitted by said line terminator ~~(LT)~~, said

grant message ~~(G)~~ including a first plurality of bits ~~(A)~~ being determined by said line

terminator ~~(LT)~~ according to an identification of said selected element ~~(SEL-E)~~ and a

second plurality of bits ~~(B)~~ being determined according to an identification of a locally

predefined function ~~(SEL-F)~~ of said selected element ~~(SEL-E)~~, and said recognizing

means ~~(RECO) is further included to~~ also recognizes in said grant message ~~(G)~~ said first

plurality of bits ~~(A)~~ and said second plurality of bits ~~(B)~~ and ~~to generate~~ upon said

recognition, generates a control signal ~~(CTRL(Ei(SEL-F))~~ for selected element ~~(Ei) in~~

~~order to thereby impose~~ forcing execution of said locally predefined function ~~(SEL-F)~~

upon said selected element, ~~(Ei)~~

wherein said element controller is coupled in a downstream direction to said line

terminator, and said line terminator is being coupled via said set of in-line elements comprising

said selected element to a plurality of network terminators by a common branch and dedicated

branches, respectively.

7. (currently amended): The element controller ~~(CTRL-E)~~ according to claim 6,

~~characterized in that~~ wherein said selected element ~~(SEL-E)~~ is a switch-able amplifier for

amplifying upstream transmitted signals being transmitted by one of said plurality of network

terminators.

8. (currently amended): The element controller (CTRL-E) according to claim 6,

characterized in that wherein said selected element (SEL-E) is a burst mode receiver (BMRX)

coupled in said common branch to said line terminator (LT) for reception of upstream signals.

9. (currently amended): A tree-like network characterized that said tree-like network

includes comprising: any one of

a line terminator;

a common branch;

a plurality of dedicated branch;

a plurality of in-line elements;

a plurality of network terminators being coupled via said plurality of in-line elements to

said line terminator by said dedicated branches and said common branch, respectively; and

an element controller associated to a selected element of said plurality in-line elements

forcing execution of a locally predefined function upon said selected element under a central

control of the line terminator, said element controller comprises:

recognizing means being coupled to an input of said element controller to receive

a grant message transmitted by said line terminator, said grant message including a first

plurality of bits being determined by said line terminator according to an identification of

said selected element and a second plurality of bits being determined according to an

identification of a locally predefined function of said selected element, and said

recognizing means also recognizes in said grant message said first plurality of bits and

said second plurality of bits and upon said recognition, generates a control signal for the

selected element forcing execution of said locally predefined function upon said selected

element, said element controller is coupled in a downstream direction to said line

terminator,

wherein ~~a~~ said line terminator comprises:

a determining means to determine the first plurality of bits and the second

plurality of bits,

including means coupled to said determining means to include said first plurality

of bits and said second plurality of bits in said grant message, and

forwarding means coupled to said including means to forward said grant message

to the element controller. ~~(LT) and an element controller (CTRL-E), said line terminator~~

~~(LT) being, and said element controller (CTRL-E) being according to claim 6~~.

10. (new): The method to perform central control of an in-line element according to

claim 1, wherein said plurality of in-line elements are positioned on said common link and said

dedicated branch between said line terminator and the plurality of network terminals.

11. (new): The method to perform central control of an in-line element according to

claim 10, wherein said plurality of in-line elements facilitate transmission of signals from said

network terminators to the line terminator and vise versa.

12. (new): The method to perform central control of an in-line element according to

claim 11, wherein each of said plurality of in-line elements facilitate transmission of a signal in a

portion of a link from said common link and said dedicated link, where said in-line element is

located.

13. (new): The method to perform central control of an in-line element according to

claim 1, wherein said second plurality of bits identifying said locally predefined function is

identifying an operation that said selected element must execute.

14. (new): The method to perform central control of an in-line element according to claim 1, wherein said second plurality of bits determines a type of operation for said selected element to perform.

15. (new): The method to perform central control of an in-line element according to claim 1, wherein said first plurality of bits identifies a selected element, said selected element being a single system component, and wherein said second plurality of bits identifies said locally predefined function, said identified locally predefined function is a type of function said single system component is ordered to execute.

16. (new) The method to perform central control of an in-line element according to claim 15, wherein said second plurality of bits identify a different function depending on said selected element.

17. (new): The method according to claim 1, where said first plurality of bits is a branch identifier identifying at least a portion of the common link and the dedicated link.

18. (new): The method according to claim 3, wherein said capturing is performed by said selected element.